

AMENDMENTS TO THE CLAIMS

This Listing of Claims will replace all prior versions and listings of claims in this application.

Listing of Claims:

1. (Currently Amended) A process for obtaining a pure aliphatic dialdehyde monoacetal comprising a reaction of the corresponding aliphatic dialdehyde or a precursor of the corresponding aliphatic dialdehyde with one or more aliphatic mono- or polyhydric alcohols while distillatively removing water to obtain a reaction mixture which is separated distillatively, said process further comprising carrying out the distillative separation continuously in (i) a dividing wall column to obtain pure aliphatic dialdehyde monoacetal as a sidestream from the dividing wall column, or (ii) in two distillation columns to obtain crude aliphatic dialdehyde monoacetal as a sidestream in the first distillation column, feeding the crude aliphatic dialdehyde monoacetal to the second distillation column, and obtaining pure aliphatic dialdehyde monoacetal as the sidestream from the second distillation column.
2. (Original) A process as claimed in claim 1, wherein the reaction mixture is heated to from 80 to 130°C before the distillative separation.
3. (Previously Presented) A process as claimed in claim 1, wherein the reaction mixture is heated for at least 15 minutes.

4. (Currently Amended) A process as claimed in claim 1, wherein the aliphatic dialdehyde is a substance selected from the group consisting of malonaldehyde, succinaldehyde, glutaraldehyde, and adipaldehyde.
5. (Currently Amended) A process as claimed in ~~claim 4, claim 1~~, wherein the aliphatic dialdehyde ~~used~~ is glutaraldehyde or its precursor, 2-hydroxy-3,4-dihydro-2H-pyran.
6. (Previously Presented) A process as claimed in claim 1, wherein the aliphatic mono- or polyhydric alcohol is a diol.
7. (Previously Presented) A process as claimed in claim 5, wherein glutaraldehyde is reacted with ethylene glycol in a molar ratio in the range from 1:1.5 to 1.5:1.
8. (Previously Presented) A process as claimed in claim 1, wherein the reaction is carried out in the presence of an acidic catalyst, in a concentration of from 0.02 to 5% by weight based on the total weight of the reaction mixture.
9. (Previously Presented) A process as claimed in claim 1, wherein the optionally heated reaction mixture is continuously separated in two distillation columns to remove the crude

aliphatic dialdehyde monoacetal as a sidestream in a first distillation column and the pure aliphatic dialdehyde monoacetal as a sidestream in a second distillation column.

10. (Previously Presented) A process as claimed in claim 1, wherein the optionally heated reaction mixture is separated in a dividing wall column having a vertical dividing wall which is disposed in the longitudinal direction of the column and divides the column into a feed region, a takeoff region, a lower combined column region and also an upper combined column region, to recover pure aliphatic dialdehyde monoacetal as a sidestream from the withdrawal region.

11. (Previously Presented) A process as claimed in claim 1, wherein the distillative separation of the optionally heated reaction mixture is carried out with the addition of a high-boiling diluent in the lower region of the first distillation column or in the upper combined column region of the dividing wall column.

12. (Previously Presented) A process as claimed in claim 11, wherein the high-boiling diluent is a substance or a mixture of substances selected from the group consisting of: alkanes, aromatics or polyethers, preferably polypropylene glycols, and polyethylene glycols.

13. (Previously Presented) A process as claimed in claim 3, wherein the reaction mixture is heated from 30 minutes to 4 hours, at from 90 to 110°C.

14. (Previously Presented) A process as claimed in claim 13, wherein the reaction mixture is heated for 1 hour.

15. (Previously Presented) A process as claimed in claim 5, wherein the glutaraldehyde is used in aqueous solution.

16. (Previously Presented) A process as claimed in claim 15, wherein the aqueous solution of glutaraldehyde is a 50% by weight aqueous solution.

17. (Currently Amended) A process as claimed in claim 6, wherein the aliphatic diol is selected from the group consisting of ethylene glycol, 1,2-propylene glycol, 1,3-propylene glycol, 1,2-butanediol, 1,3-butanediol, ~~and~~ and 1,4-butanediol.

18. (Previously Presented) A process as claimed in claim 17, wherein the aliphatic diol is ethylene glycol.

19. (Previously Presented) A process as claimed in claim 7, wherein glutaraldehyde is reacted with ethylene glycol in a molar ratio in the range from 1:1.2 to 1.2:1.

20. (Previously Presented) A process as claimed in claim 19, wherein glutaraldehyde is reacted with ethylene glycol in a molar ratio in the range from 1.0:1.0.

21. (Previously Presented) A process as claimed in claim 8, wherein the acidic catalyst is selected from the group consisting of a cation exchanger, a mineral acid, and an organic acid.

22. (Previously Presented) A process as claimed in claim 12, wherein the polyethylene glycol has an average molecular mass of 300.